

REMARKS

I. Status of the Claims

No claims have been amended. Therefore claims 1-16 and 18-21 are currently pending.

Applicants believe the claims are allowable over the cited prior art.

II. Art Rejections

A. Rejection of claim 1-2, 12, 15-16, and 18-21 as obvious in view of Meston

In the Office Action, the Examiner rejects claims 1-2, 12, 15-16, and 18-21 under 35 U.S.C. § 103 as being obvious in view of U.S. Patent No. 4,933,118 issued to Meston (“Meston”). This rejection is respectfully traversed.

Claim 1, and the corresponding dependent claims, are not obvious in view of Meston, because there is no motivation to modify the baffles of Meston to an angle between 22.5° and 27.5° as recited in claim 1. It is respectfully submitted that the Examiner’s assertion that “since no criticality to upwardly inclination angles is taught in the instant disclosure, and the prior art encompasses the newly added angle range, determining the proper range of the upwardly inclined angles is a matter of routine experimentation” and therefore that invention must be obvious, is not a correct statement. Meston does not teach or suggest a baffle angle between 22.5° and 27.5°, which is a limitation of the claim, and, in fact, teaches away. Applicants need not show criticality where, as here, the art of record teaches completely away from the limitations of the claimed invention. Even if a motivation were present to experiment with higher angles, criticality is only needed to rebut a prima facie case of obviousness if there is an overlap between the claimed range and a prior art teaching (MPEP 2144.04(III)), which is not the case here, or if the prior art range is close enough to the claimed range “such that one skilled in the art would have expected them to have the same properties.” See *In re Peterson*, 315 F.3d

1325, 1329 (Fed. Cir. 2003). Here, the person of ordinary skill, taught by Meston the goal of adequate gas retention achieved at low baffle angles, would not reasonably have had the expectation that baffle angles as claimed by Applicants would have the same properties.

Regarding obviousness in view of Meston alone, Meston teaches a mobile gas scrubbing apparatus having low baffle angles, and specifically teaches away from higher baffle angles, such as those claimed by Applicant, because “the retention time of the gas in the apparatus will be too low.” (Meston, col. 5, lines 42-45.) The Meston apparatus would not operate effectively for its intended purpose if modified to the higher baffle angles claimed by Applicants. The Examiner’s suggestion to modify Meston to achieve Applicants’ invention is contrary to both the teaching of the reference and the motivation expressly taught therein.

Meston is directed to a mobile system for scrubbing a gas using a fluid, and teaches the use of a low baffle angle, one that is at most 15° (col. 5, lines 57-58). (“The range of 2-15° should cover most scrubbing applications.” Id.) Moreover, the baffle angles actually exemplified in Meston are at the bottom of this range: “The angles of the baffles 12 and 13 are normally quite small, for example 3.1° for the lower baffle 12, and 4.2° for the upper inclined baffle 13 in the case of a mobile scrubbing apparatus” (col. 5, lines 29-32). Fairly read, the teachings of Meston would have suggested to one of ordinary skill in the art that baffle angles must be kept low to achieve adequate gas retention time, and that higher baffle angles would defeat this objective.

In addition to Meston’s teaching of low baffle angles to ensure adequate gas retention time, Meston teaches the person of ordinary skill away from higher angle baffles because high angles would increase the height of Meston’s apparatus, making it impractical for its intended

mobile use. See Meston at col. 5, lines 50-54. The gas scrubbing apparatus taught by Meston is intended to be small so that it can be used for mobile applications:

A need exists for a small gas treatment apparatus of the type which can be mounted on a tank truck or other vehicle for treating gases emanating from liquid carried by the vehicle. Such an apparatus should, inter alia, have relatively small dimensions, be resistant to vibration, i.e. capable of operating while in motion, and be easy to empty and fill with scrubbing liquid. The object of the present invention is to meet the above need by providing a relatively simple gas scrubbing apparatus, which can readily be produced with small dimensions.

(Meston, col. 1, lines 16-26.)

Increasing the angle of Meston's baffles as suggested by the Examiner would increase the height of the apparatus, making it less suitable or unsuitable for, and contrary to, its intended use in a mobile application. See Meston at col. 5, lines 50-54. MPEP 2145(X)(D).

With respect, the Examiner has engaged in hindsight reasoning, using the claimed invention as a roadmap. That this is so is evident from the Examiner's assertion that "one of ordinary skill in the art wanting to design a non-portable mixing device would realize based upon Meston guidance that the number of baffles as well as their angle range are to be modified for an apparatus intended to be not loaded on trucks." The Examiner cites to no support in the art of record for the contention that one of ordinary skill in the art would want to design a non-portable mixing device. Not only does Meston fail to provide any motivation to design such a device, it criticizes non-portable systems as "bulky, permanent structures" and "not suitable for small scale operations." (Col. 1, lines 10-16). Additionally, it is contrary to common sense to take the small and portable apparatus taught by Meston and make it bigger and non-portable, unless there is some advantage in doing so. The only motivation of record to make such a change is provided by Applicants' specification.

No motivation has been offered by the Examiner on this record, nor can it be, for one of ordinary skill in the art to use higher angles. Meston teaches a baffle angle of at most 15° (and exemplifies single digit baffle angles), and none of the secondary cited references even teaches angled baffles. One of ordinary skill would, at best, be motivated by the teachings of the art of record to look at lower angles, e.g., angles between 0° and 15°.

It would not have been obvious to modify the apparatus of Meston by increasing the angles of the baffles to those claimed by Applicants. The Examiner is respectfully requested to withdraw this rejection of claim 1, and the rejection of the corresponding dependent claims.

B. Rejection of claim 3 as obvious in view of Meston and Burgher

In the Office Action, the Examiner rejects claim 3 under 35 U.S.C. §103(a) as obvious in view of Meston and further in view of U.S. Patent No. 5,091,118 issued to Burgher. This rejection is respectfully traversed.

Claim 1 recites that the first baffle is inclined upwardly at “a first angle between 22.5° and 27.5°.” The Examiner acknowledges that Meston fails to teach a venture tube at all, but asserts that Burgher teaches a venturi tube. However, the apparatus of Burgher is taught for in-line use in a plumbing or recirculation system (e.g., col. 1, line 65 – col. 2, line 11), which may include dividers (e.g., col. 4, lines 17 – 26), and in any event does not make up for the deficiencies of Meston with respect to claim 1. Therefore, claim 3, which depends from claim 1, is believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

C. Rejection of claim 4 as obvious in view of Meston and Smith

In the Office Action, the Examiner rejects claim 3 under 35 U.S.C. §103(a) as obvious in view of Meston and further in view of U.S. Patent No. 5,730,784 issued to Smith. This rejection is respectfully traversed.

The Examiner asserts that Smith teaches a catalyst. However, this does not make up for the deficiencies of Meston with respect to claim 1. Therefore, claim 4, which depends from claim 1, is believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

D. Rejection of claim 5 as obvious in view of Meston and Kehse

In the Office Action, the Examiner rejects claim 5 under 35 U.S.C. §103(a) as obvious in view of Meston and further in view of U.S. Patent No. 3,497,327 issued to Kehse. This rejection is respectfully traversed.

The Examiner asserts that Kehse teaches structural elements present on the surface of the baffles. However, the teaching of Kehse in no way supplies the deficiencies of Meston with respect to claim 1. Therefore, claim 5, which depends from claim 1, is believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

E. Rejection of claims 6-7 as obvious in view of Meston and Eng

In the Office Action, the Examiner rejects claims 6-7 under 35 U.S.C. §103(a) as obvious in view of Meston and further in view of U.S. Patent No. 3,494,099 issued to Eng. This rejection is respectfully traversed.

The Examiner asserts that Eng teaches an ultrasonic emitter. However, this does not make up for the deficiencies of Meston with respect to claim 1. Therefore, claims 6-7, which depend from claim 1, are believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

F. Rejection of claims 8-9 as obvious in view of Meston, Eng, and Cox

In the Office Action, the Examiner rejects claims 8-9 under 35 U.S.C. §103(a) as obvious in view of Meston in view of Eng as applied to claim 6, and further in view of U.S. Patent No. 5,017,203 issued to Cox. This rejection is respectfully traversed.

Eng is discussed above. The Examiner asserts that Cox teaches a UV generator. However, neither Eng nor Cox makes up for the deficiencies of Meston with respect to claim 1. Therefore, claims 8-9, which depend from claim 1, are believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

G. Rejection of claims 10-11 as obvious in view of Meston, Smith, and Dorr

In the Office Action, the Examiner rejects claims 10-11 under 35 U.S.C. §103(a) as obvious in view of Meston in view of Smith as applied to claim 4, and further in view of U.S. Patent No. 5,030,428 issued to Dorr. This rejection is respectfully traversed.

Smith is discussed above. The Examiner asserts that Dorr teaches titanium dioxide as a catalyst. However, neither Smith nor Dorr makes up for the deficiencies of Meston with respect to claim 1. Therefore, claims 10-11, which depend from claim 1, are believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

H. Rejection of claims 13-14 as obvious in view of Meston, Burgher, and Herbert

In the Office Action, the Examiner rejects claim 13-14 under 35 U.S.C. §103(a) as obvious in view of Meston in view of Burgher as applied to claim 3, and further in view of and U.S. Patent No. 2,888,140 issued to Herbert. This rejection is respectfully traversed.

Burgher is discussed above. The Examiner asserts that Herbert teaches removable inserts. However, neither Burgher nor Herbert makes up for the deficiencies of Meston with respect to claim 1. Therefore, claims 13-14, which depend from claim 1, are believed to be allowable for at least the reasons given above with respect to claim 1. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

III. Conclusion

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and the prompt allowance of the pending claims.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for this Amendment, or credit any overpayment to deposit account no. 08-0219.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to deposit account no. 08-0219.

Applicant believes no fee is due with this response other than the extension of time fee submitted herewith. However, if a fee is due, please charge our Deposit Account No. 08-0219, under Order No. 0088630.00213US4 from which the undersigned is authorized to draw.

Respectfully submitted,

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